



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



NLP250-DC Series Single Output

Total Power: 250 W
Input Voltage: 38 - 60 Vdc
of Outputs: Single



Special Features

- -48 Vdc Input
- 250 W on main channel with forced air
- Low profile fits 1U applications
- U-Channel for maximum thermal performance
- 5 V standby output
- 12 V fan output
- Integrated control and monitoring features
- Overcurrent, overvoltage and overtemperature protection
- Compliance to EN55022-B conducted noise standard
- RoHS compliant
- 2 year warranty

Safety

- VDE0805/EN60950-1
- IEC950/IEC60950-1
- UL/cUL 60950-1
- CSA-C22.2 60950-1
- CB Certificate
- CE Mark (LVD)

Electrical Specifications

Input		
Input voltage range:	-48 Vdc Nominal	38 - 60 Vdc
Input surge current:	60 Vdc (cold start)	40 A max.
Input voltage protection:	Reverse polarity protected	
Input current:	-48 Vdc @ 250 W	7 A
Input fuse:	UL/IEC127	T6.4 AH, 250 Vac
Output		
Maximum power:	200 LFM forced air	250 watts
Total regulation: (line and load)	Main output Auxiliary outputs	± 2.0% ± 5.0%
Turn-on delay:	-48 Vdc Input	2.0 s max.
Transient response:	Main output 50 - 100% Step at 0.5 A/μs	5.0% or 250 mV max. dev., 1 ms max recovery to 1%
Temperature coefficient:		±0.04%/°C
Overvoltage protection:	Main output	115%, ± 5%
Short circuit protection:	Cyclic operation	Continuous
Minimum output current:	Singles	0 A
Auxiliary outputs: (See Note 8, page 3)	5 Vsb 12 V (fan)	5 V @ 1.0 A 12 V @ 1.5 A

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated

EMC Characteristics ⁽⁵⁾		
Conducted emissions:	EN55022, FCC part 15 CISPR22, GR-1089 Core, ETSi 300-386	Level B
ESD air:	EN61000-4-2	Level 3
ESD contact:	EN61000-4-2	Level 3
Radiated immunity:	EN61000-4-3	Level 3
Fast transients:	EN61000-4-4	Level 3
Surge:	EN61000-4-5	Level 3
Conducted immunity:	EN61000-4-6	Level 3
General Specifications		
Hold-up time:	-48 Vdc Input	4 ms @ 250 W
Efficiency:	-48 Vdc @ 250 W	85% typ.
Isolation voltage:	Input/output Input/chassis	1500 Vdc 1500 Vdc
Safety approvals (see note 6, page 3):	UL/cUL UL60950-1, VDE EN60950-1, CAN/CSA22.2 No. 60950-1	
Weight:		650g (22 oz)
MTBF (@25 °C):	Telcordia SR-332	317,000 hours min.

Environmental Specifications

Thermal performance:	Operating ambient,	-5 °C to +70 °C
	(See derating curve)	
	Non-operating	-40 °C to +85 °C
	0 °C to 50 °C ambient,	250 W
	200 LFM forced air 250 LFM with cover	
	0 °C to 50 °C ambient	175 W
	Convection cooled	
	50 °C to 70 °C ambient,	Derate linearly
	Convection cooled	to 50% load
Relative humidity:	Non-condensing	Per GR-63-Core
Altitude:	Operating	10,000 feet max.
	Non-operating	30,000 feet max.
Vibration:	5-100 Hz	Per GR-63-Core
Shock:	Per GR-63-Core	Zone 4

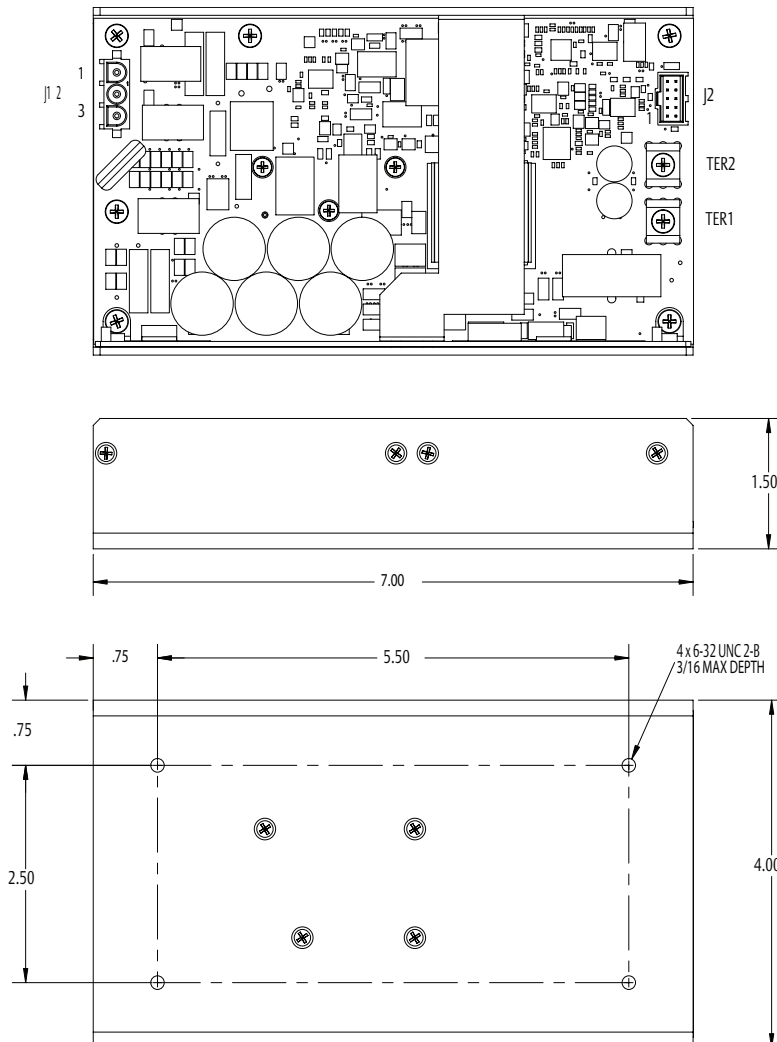
Ordering Information

Output Voltage	Output Current			Ripple ⁽³⁾	Total Regulation	Model Numbers ^(9, 10)
	Min	Max (free air) ^(1,4)	Max (forced air) ^(2,4)			
12 V	0 A	14.6 A	21 A	120 mV	± 2.0%	NLP250N-48S12J

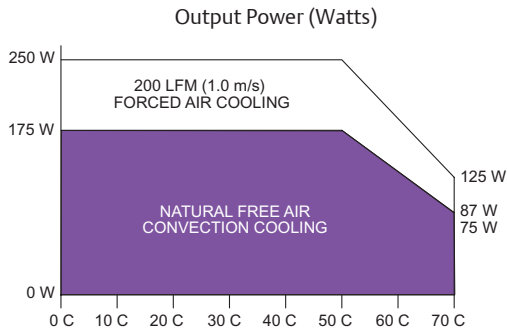
Notes

- Free air convection. Maximum continuous output power not to exceed 175 W. Refer to Figure 1 for the derating curve.
- 200 LFM (250 LFM with cover) forced air cooling from the longer side. Maximum continuous output power not to exceed 250 W.
- Figure is peak-to-peak for room temperature rating. Output noise measurements are made across a 20 MHz bandwidth using a 6 inch twisted pair, terminated with a 10 μ F tantalum capacitor and a 0.1 μ F ceramic capacitor.
- CAUTION: Allow a minimum of 1 second after disconnecting line power when making thermal measurements. For optimum reliability no part of the heatsink should exceed 115 °C and no semi-conductor case temperature should exceed 120 °C.
- No external filtering required during conducted emissions testing but some applications may require additional filtering to achieve system compliance. Compliance with radiated EMI specifications may require mounting in a suitable enclosure.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 5 V sb (standby) output is available whenever DC input is present, regardless of remote ON/OFF signal status. 12 V (fan) present when main output is present.
- The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant.
- NOTICE: Please contact your local Emerson representative or visit our website at <http://www.PowerConversion.com>.

Mechanical Drawing



Derating Curve



Connector and Mating Connector Types		
Connector	Type	Mating Connector Type
J1	Molex 10-84-5030 (4202 series)	Molex 50-84-1035 (42021 series) or equivalent with Molex 02-08-1001 (42024 series) or equivalent crimp terminals
J2	Molex	Molex 90142-0010 Molex 90119-2110 crimp terminals
TER1 TER2	Terminal block	Terminal block contains #6-32 screw with clamp washer suitable for wire size 12-22 awg (0.5-2.5 mm ²). Max Torque tp 1.36 Nm (12 in.lb)

Pin Connections	
J1	
Pin 1	-48 Vdc
Pin 2	Ground
Pin 3	Return
J2	
Pin 1	N/C
Pin 2	-VO Remote Sense
Pin 3	+VO Remote Sense: Load compensation for 0.2 V to 0.5 V drop at load (sense point)
Pin 4	5 V Standby
Pin 5	Signal Common (RTN): 5 V standby and 12 V fans
Pin 6	12 V DC Fan Voltage
Pin 7	Signal Common (RTN): 5 V standby and 12 V fans
Pin 8	Inhibit: A closed contact (Low) will shut down PSU main output within 200ms (typical)
Pin 9	DC Power Good: Vo > -8% of nominal = Logic HI, Out of Regulation = Logic Low
TER1	
TER1	+12 V
TER2	
TER2	GND

Americas

5810 Van Allen Way
Carlsbad, CA 92008
USA
Telephone: +1 760 930 4600
Facsimile: +1 760 930 0698

Europe (UK)

Waterfront Business Park
Merry Hill, Dudley
West Midlands, DY5 1LX
United Kingdom
Telephone: +44 (0) 1384 842 211
Facsimile: +44 (0) 1384 843 355

Asia (HK)

14/F, Lu Plaza
2 Wing Yip Street
Kwun Tong, Kowloon
Hong Kong
Telephone: +852 2176 3333
Facsimile: +852 2176 3888

For global contact, visit:

www.PowerConversion.com
techsupport.embeddedpower@emerson.com

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